Amendments to the Specification

Please amend paragraph [0014] as follows:

-- [0014] As noted above, the object of the invention is to reduce the PAR (Peak-to-average ratio) of a signal to be transmitted. In accordance with the principles of the invention this is achieved by subtracting [[~~the~~]] a signature waveform from the signal whenever the signal is above a predetermined maximum level or threshold value (T). As a result, the signal will not be saturated. --

Please amend previously-amended paragraph [0016] as follows:

-- [0016] Referring now to FIG. 1, a practical implementation of the invention comprises an IFFT (Inverse Fast Fourier Transform) unit 100 which receives a frequency domain ~~modulated~~ DMT input signal X and outputs ~~an IFFT~~ a time domain DMT signal $x(n_1)$, which is represented as 16 bit numbers. The ~~output~~ time domain DMT signal $x(n_1)$ is fed to a subtractor 101. --

Please amend previously-amended paragraph [0017] as follows:

-- [0017] In the meantime, the IFFT 100 unit calculates the absolute maximal value |M| of the amplitude [[~~(M)~~]] of the samples in a frame of the DMT ~~frame~~ signal $x(n_1)$ together with the address I of its location in the series of [[~~bits~~]] samples in the frame, and supplies them to a threshold calculation unit 102, which compares the absolute maximal value |M| with a predetermined maximum level or threshold ~~0x08000~~ T, for example 0xXXXX for a 16 bit signal, and outputs a scaling factor C which is used to scale a signature waveform s(n). If the absolute maximal value (|M|) of the time domain signal ($x(n_1)$) is smaller than threshold ~~0x08000~~ T, no action is required for PAR reduction, and the threshold calculator 102 sets scaling factor C to zero. Hence, following multiplication, the signature waveform also will be zero. Otherwise, if the absolute maximal value |M| is equal to or greater than threshold ~~0x08000~~ T, the threshold calculator 102 outputs a scaling factor C having a value derived as follows: --

-- [0018] If |M| is larger than ~~0x0FFFF~~ 0x7FFF, |M| is first saturated to ~~a predetermined maximal value 0x0FFFF~~ 0x7FFF.

-- [0019] While the signature waveform is to be subtracted from the signal ($x(n_1)$), it must first be aligned with the signal peak bearing in mind that the signature waveform is only 256 bytes long. It must also be remembered that the signature waveform consists of only 8 bit samples whereas the signal consists of 16 bit samples. --

Please replace paragraph [0020] with the following amended paragraph (noting that the replacement equation has not been underlined to avoid confusion):

-- [0020] Alignment of the signature waveform with the peak is achieved by taking IFFT output samples at addresses n_1 ranging from [I-128: I+127] (before the prefix, suffix and window are added), and subtracting the signature waveform multiplied by the scaling factor C where C is determined as follows:

~~$|M| = ((C \times (0x0080)) >> 7) = 0x08000$~~

~~$C = (|M| - 0x08000) \times sgn(M)$~~

~~$|M - ((C \times (0x7F)) >> 7)| = T$~~

$$C = \begin{cases} (|M| - T) \times sgn(M) & |M| > T \\ 0 & |M| \le T \end{cases}$$

Please replace paragraph [0024] with the following amended paragraph:

-- [0024] This signal S(k) is then checked against a required frequency mask in unit 204 and any ~~signals~~ frequency components of the signal that are outside the mask are corrected to comply with the mask requirements. The output $S_1(k)$ of unit 204 is passed back into the IFFT 201 and the process repeated on an iterative basis until either the waveform change becomes insignificant between successive iterations or a maximum number of iterations is reached. --

Please replace paragraph [0025] with the following amended paragraph:

-- [0025] An example of a time domain ~~threshold~~ waveform restriction profile for unit 202 is:

$$s_1(n) = \begin{cases} 1, & n = 128; \\ s(n), & |s_1(n)| \le 0.5, n \ne 128 \\ 0.5 \times sgn(s(n)), & |s_1(n)| > 0.5, n \ne 128 \end{cases}$$

Please replace paragraph [0026] with the following amended paragraph:

-- [0026] In the above equation, it is assumed that the center point of the signature waveform is centered at n=128 and the waveform restriction profile includes a threshold that is a constant 0.5.

Please replace paragraph [0027] with the following amended paragraph:

-- [0027] An example of frequency domain mask for unit 204 is:

$$S_1(k) = \begin{cases} S(k), & k \text{ is the region 1 or within the required frequency mask} \\ \gamma_1 \times sgn(S_1(k)), & k \text{ is in region 2 and } |S_1(k)| > \gamma_1 \\ \gamma_2(k) \times sgn(S_1(k)), & k \text{ is in region 3 and } |S_1(k)| > \gamma_2 \end{cases}$$

where γ_1 and γ_2 are preset thresholds.